Nikita Gupta

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EDUCATION

Argonne National Lab, Chicago
Visiting graduate student — Aug 2019 – ongoing

University of Illinois Chicago, Chicago
PhD in chemistry — Aug 2019 – ongoing

UM-DAE Centre for Excellence in Basic Science, Vidyanagari, Mumbai, India
Integrated M.Sc. in Chemistry — Aug 2014 – April 2019
Cumulative GPA: 8.56/10

RESEARCH EXPERIENCE

University of Illinois Chicago, Chicago, Illinois, USA
- Ph.D. — Aug 2019 – May 2024
- **Project**: Study of Light Harvesting Complexes using Ultra-Fast Laser Spectroscopy
- **Supervisors**: Ksenija Glusac

University of Illinois Chicago, Chicago, Illinois, USA
- Master's thesis project — May 2018 – 30 Nov 2018
- **Project**: Light Harvesting in Cobaloxime-coordinated Graphene Quantum Dots.
- **Supervisors**: Professor Ksenija Glusac

UM-DAE Centre for Excellence in Basic Sciences, Vidyanagari, Mumbai, India
- Eighth semester project — Jan 2018 – May 2018
- **Project**: Synthesis, Characterisation, Photophysical studies of a Acridone-naphthylamine derivative and its Thermally Activated Delayed Fluorescence studies.
- **Supervisors**: Guide: Professor Neeraj Agrawal, Co-guide: Professor Dipak K. Palit

UM-DAE Centre for Excellence in Basic Sciences, Vidyanagari, Mumbai, India
- Seventh semester reading project — Aug 2017 – Nov 2018
- **Project**: Hydrogen Bonds in Supramolecular Complexes
- **Supervisors**: Professor Dipak K. Palit

Tata Institute of Fundamental Research, Mumbai, India
- Third year summer project — May 2017 – June 2017
- **Project**: Contribution of current through different molecular orbital of Bis-Terpyridine Based Single Molecular Breadboard Circuit using non-equilibrium green function.
- **Supervisors**: Professor Ravindra Venkatramani

UM-DAE Centre for Excellence in Basic Sciences, Vidyanagari, Mumbai, India
- Third year project — Sep 2016 – Feb 2017
- **Project**: Synthesis and Characterisation of BODIPy and Derivatives
- **Supervisors**: Professor Neeraj Agrawal

Bhabha Atomic Research Centre (BARC), Anushakti Nagar, Mumbai 400 085, INDIA

- Second year Summer project May 2016 – Jul 2016
- **Project**: Photoluminecence of Europium doped Gadolinium Borate
- **Supervisors**: Professor R.K.Vatsa

UM-DAE Centre for Excellence in Basic Sciences, Vidyanagari, Mumbai, India

- First year summer project May 2015 – Jul 2015
- **Project**: Action of different drugs on Actin protein
- **Supervisors**: Professor Avinash Kale

ACADEMIC HONORS AND AWARDS

- **INSPIRE Scholarship, DAE(India)**, (2014-2015)
  Provides full sponsorship with stipend for undergraduate studies.
- **KVPY Scholarship, DST(India)**, (2015-2019)
  Provides full sponsorship with stipend for undergraduate studies and access to any experimental lab in all over India in any government institute.
- **National Science Camp** (Vijyoshi -2015)
  Attended NSC-2015 at IISC- Banglore
- **Interdisciplinary Symposium on Materials Chemistry (ISMC-2016)**
  Actively participated in the lectures and presented a poster on synthesis and characterization of europium doped GdBO3 phosphor for display applications.
- **Visiting student Research Programme** (VSRP-2017)
  Contribution of current through different molecular orbital of Bis-Terpyridine Based Single Molecular Breadboard Circuit using non-equilibrium green function.
- 4th rank in **ISC** 2017
- Incoming Graduate student presentation at **UIC** (Aug 2018, 2020).
- **Focus Area of Science & technology Summer Fellowship** 2019
  Actively participated and volunteered in this 6 week summer school
- **SSRL XAS Summer School** 2020

INSTRUMENTATION

- MATLAB, FORTRAN, GNUPLOT, Latex, Arduino microcontroller and its Embedded C programming
- Electronic circuits, sensors and basic interfacing
- Know about the working principle of many instrument like pXRD, Flourimeter, TEM, SEM, NMR, ssNMR, Maldi, FTIR and many others and their data analysis.
- Spectroscopic instruments like: pump-probe spectroscopy, femtosecond laser spectroscopy, time-correlated single photon counting (TCSPC)
- Grammy E-chem.

PUBLICATIONS

1. **Gupta, N.;** Xie Z.; Phelan B. T.; Chen L. X.; Mulfort K. L.; Glusac K. D. Investigation of photoinduced charge accumulation in Cu(I)-anthraquinone dyads by IR spectroscopy. ***In Progress*.**
2. Drummer, M.; Weerasooriya, R.; **Gupta, N.;** Askins, E.; Liu, X.; Valentine, A.; Li, X.; Glusac, K. Proton-coupled Electron Transfer in a Ruthenium (II) Bipyrimidine Complex in its Ground and Excited Electronic States. Chemrxiv **2022**. https://doi.org/10.26434/chemrxiv-2022-9n05p-v2.
3. Drummer, M. C.; Weerasooriya, R.; **Gupta, N.;** Phelan, B. T.; Valentine, A. J. S.; Cordones, A. A.; Li, X.; Chen, L. X. and Glusac, K. D. Long-lived Excited State in a Solubilized Graphene Nanoribbon. J. Phys. Chem. C **2022**, DOI: 10.1021/acs.jpcc.1c10024.
4. Drummer, M. C.; Singh, V.; **Gupta, N.;** Gesiorski, J. L.; Weerasooriya, R. and Glusac, K. D. Photophysics of Nanographenes: from Polycyclic Aromatic Hydrocarbons to Graphene Nanoribbons. Photosynth. Res. **2021**. https://doi.org/10.1007/s11120-021-00838-y
5. Singh, V; **Gupta, N;** Hargenrader, G. N; Askins, E. J; Valentine, A. J. S; Kumar, G; Mara, M. W; Agarwal, N; Li, X; Chen, L. X; Cordones, A. A; Glusac, K. D, Photophysics of Graphene Quantum Dot Assemblies with Axially Coordinated Cobaloxime Catalysts, J. Chem. Phys. **2020**. DOI: 10.1063/5.0018581
6. Awasthi, A. A; Gupta, N; Siddiqui, Q; Parab, P; Palit, D. K; BOSE, S; and Agrawal, N, Synthesis of Acridonenaphthylamine derivative and its Thermally Activated Delayed Fluorescence studies for application in OLED's, J. Chem. Sci. (2019) 131:94. DOI: 10.1007/s12039-019-1667-9.

TEACHING EXPERIENCE

1. Teaching Assistant for General chemistry I – Labs and Discussions, CHEM 123/122 at UIC from 2019 and 2021 academic year.
2. Teaching Assistant for General chemistry II – Labs and Discussions, CHEM 125/124 at UIC for 2020 academic year.
3. Personal tutor on Chegg for 3 years (2018-2020).